

A NEW SPECIES OF *AUTOMERIS* (LEPIDOPTERA: SATURNIIDAE) FROM CENTRAL MEXICO¹

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ABSTRACT: *Automeris michoacana*, new species, is described from Michoacan State, Mexico. It is differentiated from its nearest allies within the *A. io* group.

The study of specimens of saturniids from mid-elevation montane forests in central and south Mexico has resulted in the discovery of several new species, with apparently very small ranges. This new species belongs in the *Automeris io* group proposed by Lemaire (1973), within the *A. iris* subgroup which includes five described species: *A. iris* (Walker), *A. lemairei* Beutelspacher, *A. boudinotiana* Lemaire, *A. daudiana* Druce, and *A. stacieae* Lemaire & Wolfe (Lemaire, 1986; Beutelspacher B., 1990; Lemaire & Wolfe, 1993). At least another two species remain to be described within the later subgroup which is characterized by the yellow or gray periocellar area and a continuous postmedial line on the upper side of the forewings (Lemaire, 1973; Balcázar-Lara, in press).

Automeris michoacana NEW SPECIES

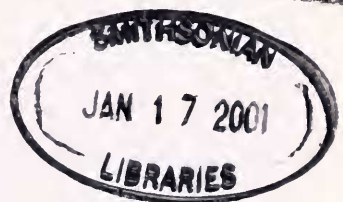
(Figs. 1-2)

Description. Forewing length: ♂ 34–37 mm (\bar{x} = 35.75, n = 4). Male.- *Head*: salmon color; frontal area cinnamon. Labial palpi three-segmented, salmon color. Antennae cinnamon, quadripectinate almost to the apex. *Thorax*: cinnamon; legs cinnamon; tibiae very hairy. Hind tibia with one pair of apical spurs. *Abdomen*: cinnamon, dorsally weakly ringed with reddish. *Forewing*: elongate; dorsally pale pinkish buff. Antemedial line very faint. Postmedial line dark brown, straight, continuous; reaching costa about 6–8 mm from apex; not underlined. Submarginal band absent. Discal spot slightly darker than rest of the wing, surrounded with five to seven small black dots. Forewing ventrally cinnamon rufous, with a pale pinkish area along the inner side of the wing. Antemedial line absent. Postmedial line clearly marked, reaching costa about 4–5 mm from apex, dark cinnamon brown, straight. Discal spot strong, black around a small white center. Veins slightly clearer than remainder of wing. *Hindwing*: dorsally pale pinkish buff, with a brick red to pinkish area along the inner margin. Postmedial line black, concave. Submarginal band cinnamon; basomedial area brick red to pink; costal area pale pinkish; marginal area cinnamon rufous; inner side brick red; fringes ferruginous; area between postmedial line and submarginal band yellow ochre; ocellus typical of the *A. io* group, black with central diffuse white spot, ventrally cinnamon rufous; costal area same as rest of wing. Postmedial line dark cinnamon, convex. Discal spot weak, a small white dot without black; black ring of dorsal ocellus weakly visible; veins slightly clearer than the rest of wing. *Male genitalia*. Uncus very prominent, bent ventrally, with five apical folds (very strong and asymmetrical). Uncus with a

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small projection pointing backwards. Valves with two lobes, apical process bent medially, inner spine prominent. Gnathos reduced to a subtrapezoidal plate. Saccus very long (narrow). Vinculum with anterolateral edges prominent. Aedeagus straight, delicate (very short).

Female. Unknown.

Type Material. Holotype: ♂; Mexico, Michoacán, 3 km S Tacámbaro, N 19° 14' W 101° 27' 30", 1600 m; 14 June 1985; M. Balcázar L. CNIN, Mexico. Paratypes: 3 ♂♂; same data as holotype. Other specimen examined: 1 ♂; Mexico, Michoacán, Uruapan, "Centro de Estudios Forestales"; June 1977. CNIN, Mexico.

Deposition of types.- The holotype and two paratypes are deposited in the National Collection of Insects (CNIN), Instituto de Biología, UNAM; one paratype will be deposited in the United States National Museum.

Etymology. This species is named in honor of the Universidad Michoacana de San Nicolás de Hidalgo, the university where I earned my B.S. when I collected the type series.

Distribution.- The known specimens of *A. michoacana* were collected at an elevation of 1600 m in pine-oak forests, with semi-warm climate (annual average temperature above 18° C) and a coefficient rainfall/temperature above 55 (García, 1973). Both known localities are in the Eje Volcánico biogeographic province *sensu* Álvarez & La Chica (1974) on the southern slope, close to the Balsas River Basin province (Depresión del Balsas).

Flight period.- All known specimens were collected in June.



Fig. 1. Habitus of *Automeris michoacana* Balcázar, new sp. Holotype ♂ (forewing length: 37 mm).

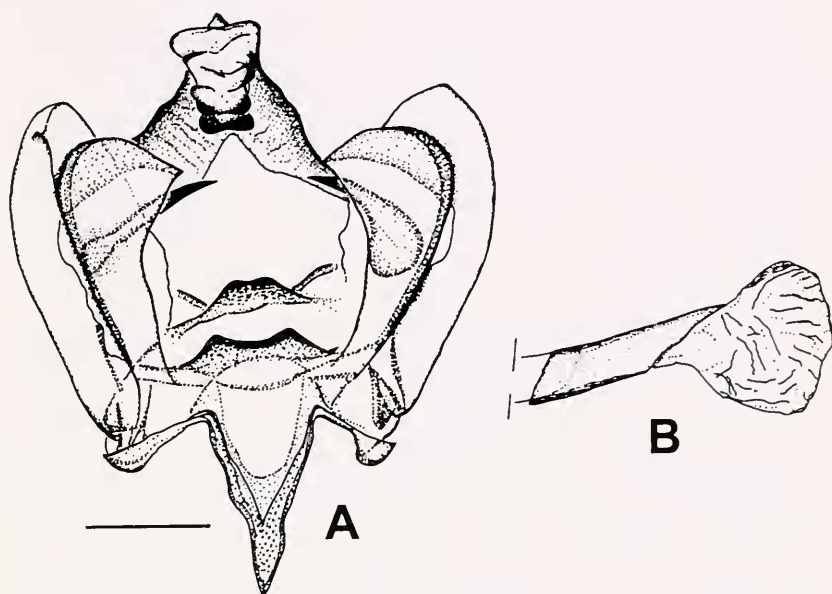


Fig. 2. Male genitalia of *Automeris michoacana* Balcázar, new sp.: A. ventral view, B. Aedeagus, vesica everted, bulbus ejaculatorius sectioned. Holotype. (line = 1 mm).



Fig. 3. Known distribution of *Automeris michoacana* Balcázar, new sp.

Key to species of *Automeris io* group found in Mexico (males).

1. Postmedial line of forewing upper side continuous 2
 Postmedial line of forewing upper side lunular 5
- 2(1). Forewing elongate 3
 Forewing not elongate 4
- 3(2). Antennae rusty yellow; postmedial line of forewing upper side concave; postmedial line of forewing upper side proximally underlined with white; postmedial line of forewing under side pink *Automeris boudinotiana*
 Antennae cinnamon; postmedial line of forewing upper side straight; postmedial line of forewing upper side not underlined; postmedial line of forewing under side dark cinnamon brown *Automeris michoacana* n. sp.
- 4(2). Postmedial line of forewing upper side usually straight; uncus folded; uncus tip, distally, as wide as or wider than tegumen *Automeris lemairei*
 Postmedial line of forewing upper side usually slightly curved basally before reaching costa; uncus strongly folded, uncus tip, distally, narrower than tegumen . *Automeris iris*
 Postmedial line of forewing upper side usually "s" shaped, curved basally towards the costa and distally towards the anal margin; uncus not folded . . *Automeris daudiana*
 Postmedial line of forewing upper side outwardly bent towards the costa; uncus slightly folded *Automeris stacieae*
- 5(1). Forewing elongate 6
 Forewing not elongate 8
- 6(5). Forewing ventrally cadmium yellow, to buff-yellow; hindwing ventrally yellow, or buff yellow 7
 Forewing ventrally clay color to cinnamon rufous; hindwing ventrally clay color to cinnamon rufous *Automeris hebe*
 Forewing ventrally pink; hindwing ventrally pink *Automeris eogena*
- 7(6). Abdomen dull yellow to brownish orange; forewing external margin not oblique; submarginal band of forewing upper side absent; veins of hindwing underside same color as rest of wing *Automeris dandemon*
 Abdomen pink to red; forewing external margin slightly oblique; submarginal band of forewing upper side lunular; veins of hindwing underside reddish pink *Automeris melmon*
- 8(5). Postmedial line of forewing upper side reaching costa about up to 6 mm from apex *Automeris colenon*
 Postmedial line of forewing upper side reaching costa about 7 mm from apex or more *Automeris io*

Discussion. *Automeris michoacana* can be separated from other members of the *A. io* group with a continuous postmedial line on the upper surface of the forewings by the following combination of characters: more elongate forewings (the external margin is about three fourths the length of the anal margin); and the almost straight postmedial line of the forewing upperside. Most specimens of *A. lemairei* have a straight postmedial line, but they can be separated by the ground color of the forewing which varies from yellow to tan color, but is never pale pinkish buff as in *A. michoacana*. The postmedial line of the forewing is slightly curved basally before reaching costa in most specimens of *A. iris*; "s" shaped, curved basally towards the costa and distally towards the anal margin in most *A. daudiana*; outwardly concave in *A. boudinotiana*; and outwardly bent towards the costa in *A. stacieae*. This latter

species can be further separated by the more pointed apex of the forewings. *A. iris* has clearly less elongate forewings than this new species. *A. daudiana* is the largest species in the subgroup. *A. boudinotiana* lacks the black dots that surround the discal spot of the forewings upperside in the rest of the species.

Within the *A. iris* subgroup there are three tendencies regarding the uncus: in *A. boudinotiana* and *A. daudiana* the uncus lacks apical folds; *A. iris*, *A. lemairei* and *A. michoacana* have a strongly folded uncus; and *A. stacieae* is intermediate.

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